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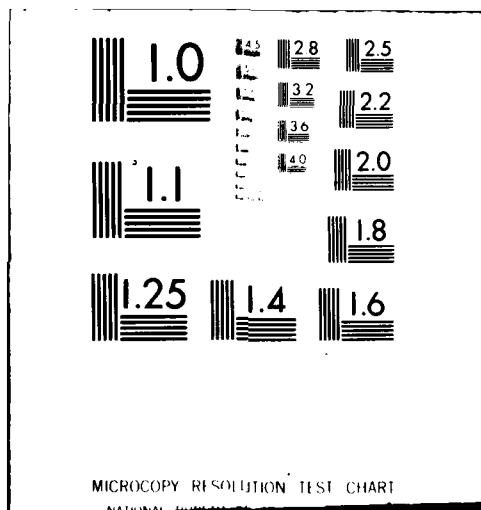
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DEPARTMENT OF THE ARMY  
HEADQUARTERS, UNITED STATES ARMY HEALTH SERVICES COMMAND  
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REPLY TO  
ATTENTION OF:

HSPA-P

121 APR 1982

SUBJECT: Preventive Medicine Information Letter Number 33

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1. Attached is Preventive Medicine (PVNTMED) Information Letter Number 33 published by the staff of the Preventive Medicine Division, DCS Professional Activities, US Army Health Services Command.
2. The material contained in this letter is intended for guidance only.
3. Since this is primarily PVNTMED information, widest dissemination to PVNTMED personnel is encouraged. Sufficient copies for distribution are provided to those offices that have subordinate preventive medicine elements.
4. We solicit articles of general interest for publication as well as comments concerning Information Letter content. Comments and articles should be addressed to:

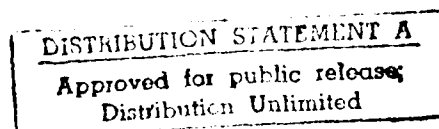
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FOR THE DCS PROFESSIONAL ACTIVITIES:

*Donald M. Rosenberg M.D.*

1 Incl  
PVNTMED Information Letter  
Number 33 w/5 Incl

DONALD M. ROSENBERG, M.D.  
Colonel, MC  
Chief, Preventive Medicine Division



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NRMC, Branch Clinic, Mare Island, ATTN: PVNTMED, Vallejo, CA 94582 (1 CY)

Preventive Medicine Services, US Naval Hospital, Patuxent River, MD 20670 (1 CY)



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PREVENTIVE MEDICINE INFORMATION LETTER NUMBER 33

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## PREVENTIVE MEDICINE - THE CONCEPT OF OPERATION

As we continuously have new folks coming on board, I felt it was time to review the concept of operation in preventive medicine within HSC. In theory and in practice, we have concluded that each of you at your respective installations are more knowledgeable of the unique emphasis existing within the mission of your installation than anyone else. As a result, you distribute your limited preventive medicine resources to meet the needs of your program. Certain elements of program emphasis and content come down to us in the form of policy statements and goals emanating from the DOD and DA staff levels. These requirements reflect overall national policies and interests.

To meet the myriad of mission requirements within the program, it is sometimes necessary to obtain expertise and additional manpower beyond that which you have been given for the day-to-day mission. For technical medical assistance, board certified/eligible preventive medicine physicians have been assigned at each of our MEDCEN's in CONUS. These personnel are available to you for telephone consultation and will even physically come to your installation if a problem warrants, as part of the Health Service Region Outreach Program of each MEDCEN. Those installations falling within the Brooke Army Medical Center Health Service Region will obtain this assistance from the Preventive Medicine Division, US Army Health Services Command.

Other technical advice and assistance are available from the US Army Environmental Hygiene Agency and its regional divisions, EPICON, USARIEM, USAARL, WRAIR, and USAMBRDL, depending on the nature of your needs. The USAEHA Regional Divisions have been given a mission to serve as your first echelon of support for problems beyond your capabilities in the broad areas of occupational and environmental medicine, pollution assessment and abatement, etc. They are the first places to turn to for assistance in these programs. Depending upon the magnitude of the problem, other resources can and will be mobilized to assist you in solving a particular problem at your installation.

As you have seen from the outline presented above, you are not out there alone against a cruel, hard world. The preventive medicine family is there and available to assist you in managing problem areas within your program. The word "assist" is vitally important for it is not enough to just seek out assistance for a problem. When a USAEHA team or any other specialty group comes to your installation to help or assess a problem area, it is YOUR program they are temporarily working in. Your personnel should make every effort to accompany these folks because YOU know YOUR program BEST. You know the people, places, and problems. And most important, it is an opportunity for YOUR personnel to become familiar with the logic, and problem solving thought processes that go into providing the needed assistance. It also will provide hands on training for your staff in the use of equipment that may only be available at one or more centralized laboratories. There is much to be gained from this approach. Alas, all too often the LOCAL preventive medicine staff fails to take advantage of these opportunities for exposure to the TDY personnel provided to you to assist you.

In summary, it is YOUR program as well as OUR program. YOU are not alone out there. Assistance is readily available IF YOU WILL ASK FOR IT. When YOU do well in YOUR program, ALL PREVENTIVE MEDICINE personnel benefit. When YOU fail to seek out help when you need it, WE ALL get tarnished and preventive medicine collectively loses. So . . . don't "Tough it out on your own", ask for assistance and ye shall receive.

*Donald M. Runkle M.D.*

## SECTION I - EPIDEMIOLOGY AND DISEASE CONTROL

### 1. Guidance on the Use of Salt Tablets.

a. The following is intended to provide clarification of the role of salt tablets in the prevention and treatment of heat injuries. The reader is referred to TB MED 507 (July 1980) for a full discussion of the pathophysiology of the three types of heat illness (heat cramps, heat exhaustion, and heat stroke) and their prevention and treatment. The issue of salt intake is most pertinent to heat cramps, which are usually caused by total body salt deficiency.

b. Profuse sweating during heat and work stress leads to salt and water losses which are normally replaced during regular meals and with liberal fluid supplements. Current doctrine stresses that during periods of heat stress important salt deficiency leading to heat cramps can be prevented through liberal salting of foods with meals. Field rations have a high salt content and, if consumed, should provide adequate salt intake. Reliance upon dietary intake of salt may not be sufficient in certain settings: e.g., hot weather field situations in which regular meals or rations may not be available. Only such unusual circumstances might justify the use of salt tablets in the prevention of heat cramps. In general, however, the use of salt tablets in the prevention of heat injury is not warranted.

c. When heat cramps have already occurred and are believed to reflect a salt deficit, salt tablets might be used in the first-aid or field treatment of this disorder. Such treatment presumes that the heat casualty is able to swallow both tablets and large volumes of water and that the ingestion of these does not provoke vomiting which would thwart the treatment. It is emphasized that the use of salt tablets in this manner constitutes a prehospital means of expedient patient care, to be used when definitive hospital or clinic care is not readily available. Salt tablets ordinarily play no role in the emergency treatment of heat exhaustion or heat stroke.

d. Salt tablets may be requisitioned only by medical units and should be administered only under the supervision of medical personnel. Unsupervised issue of salt tablets to individual soldiers and their indiscriminate use are not authorized.

e. The recommended recipe for salt tablet use entails the following sequence:

- (1) Swallow  $\frac{1}{4}$  of a quart canteen of cool water (about 250 cc)
- (2) Followed by 2 intact salt tablets
- (3) Then the rest of the canteen of water (750 cc)

f. Salt tablets should not be consumed when water cannot also be taken in the proportions indicated. The ingestion of salt without water:

- (1) May provoke vomiting.
- (2) Will create a hypertonic state in the upper gastrointestinal tract. Osmotic forces will draw water from the circulation, and possibly cause further heat injury to someone with a marginal state of water balance.

g. Tablets should be of the impregnated type (NSN 6505-00-754-2828), designed to release sodium chloride slowly over several hours. Each tablet contains 10 grains or 0.648 grams of NaCl, and the above recipe provides for the net consumption of a hypotonic solution of 22 meq NaCl per liter (0.13%). In TB MED 507, paragraph 6 and Appendix D describe several methods of preparing 0.1% salt solutions of various volumes. It should be noted that, consistent with the principles described above, it should rarely be necessary to prepare the large volumes of salt solution mentioned in the TB MED. Further, the process of dissolving two salt tablets in the quart canteen before ingestion has two disadvantages:

- (1) Impregnated salt tablets are difficult to crush and are intended to dissolve slowly.
- (2) 0.1% salt solution may be regarded as unpalatable by some persons.

h. Summary:

- (1) Salt tablets are generally not necessary for the prevention of heat injury.
- (2) Salt tablets may be useful in the emergency or field treatment of heat cramps when hospital or clinic treatment is not available.
- (3) The impregnated salt tablets should be swallowed only with generous volumes of water in the proportions indicated above.
- (4) Salt tablets should be used only when authorized and dispensed by medical personnel prescribing their use. (LTC O'Donnell, HSC, AUTOVON 471-3167)

2. Specific Diagnosis of Viral Hepatitis.

a. The occurrence of a case of viral hepatitis often calls for contact tracing, measures to prevent contagion, and, sometimes, an epidemiologic investigation and the administration of immune globulins. All of these steps are affected by a knowledge of the specific type of hepatitis involved. Recent advances in the laboratory diagnosis of viral hepatitis prompt the following discussion.

b. The three most common viral causes of apparent hepatitis in this country are Hepatitis A virus (HAV), Hepatitis B virus (HBV), and Hepatitis non-A, non-B viruses (NANB). The first two may now be diagnosed and distinguished by the use of serologic testing. The third, which probably includes several different viruses, remains a diagnosis to be made only after excluding other possible causes such as HAV and HBV. In general, the three types of hepatitis cannot be distinguished on the basis of the patient's signs, symptoms, and clinical course. Because of the differences in the means of transmission, it is important to identify the cause of individual cases in order to specify the appropriate management of contacts.

c. Infection with HAV, like most other infections, causes the victim's immunologic defense system to produce protective antibody (anti-HAV in this case). Anti-HAV of the IgM class is detectable during the acute illness and, in declining concentrations, for a few months after infection. Anti-HAV of the IgG class can be detected first during the recovery phase of Hepatitis A, and remains present for many years thereafter. Testing of patients' sera for each of these types of antibody can be expected to identify ongoing or recent cases

of Hepati<sup>+</sup>, A.

d. For over ten years it has been known that the hallmark of ongoing Hepatitis B infection is the presence in the serum of Hepatitis B surface antigen (HB<sub>s</sub>Ag), and that full recovery from this illness is accompanied by disappearance of HB<sub>s</sub>Ag and the appearance of detectable antibody to surface antigen (anti-HB<sub>s</sub>). There is usually a time gap of weeks to months between HB<sub>s</sub>Ag disappearance and anti-HB<sub>s</sub> appearance, so the timely identification of Hepatitis B rests mainly upon testing for HB<sub>s</sub>Ag during the acute phase of the illness. Unlike the situation for Hepatitis A, there is no practical diagnostic value in distinguishing the IgM and IgG types of anti-HB<sub>s</sub>. However, testing for anti-HB<sub>s</sub> can be used to determine whether or not an individual is immune to HBV infection.

e. There are no available serological tests for the identification of so-called Hepatitis non-A, non-B. This diagnosis can be comfortably made only after excluding types A and B, other viral causes of hepatitis (e.g., infectious mononucleosis, cytomegalovirus), and non-infectious causes (e.g., alcohol, INH). Epidemiologic studies indicate that there are types of hepatitis NANB whose modes of transmission are principally fecal-oral (like HAV) or principally parenteral (like HBV).

(1) Illustrative cases:

(a) A food handler (salad maker) with hepatitis is diagnosed as having Hepatitis A because his medical history is negative for drug abuse, transfusions, and close contact with anyone with HBV infection. Immune serum globulin (ISG) administration is contemplated for the 300 soldiers who eat at the patient's dining facility. Results of serologic testing show: anti-HAV, IgM - negative anti-HAV, IgG - positive HB<sub>s</sub>Ag - positive. The presence of anti-HAV, IgG indicates prior infection with HAV, but the absence of IgM type antibody places that infection in the more remote past. If the current bout of hepatitis were due to HAV, IgM antibody would be present. The finding of HB<sub>s</sub>Ag in the serum implicates HBV as the etiologic agent. Administration of ISG to the 300 soldiers is unnecessary.

(b) A soldier with a history of i.v. drug abuse is admitted to the hospital with acute hepatitis. A nurse taking his blood accidentally stabs herself with a blood-contaminated needle. Because Hepatitis B is the probable diagnosis, it is planned to administer ISG or Hepatitis B Immune Globulin (HBIG) to the nurse. Before doing so, however, both the patient's and nurse's blood are drawn for serological testing. Since the results will be available within 7 days, the nurse is given ISG. Five days later, the tests reveal:

	<u>HB<sub>s</sub>Ag</u>	<u>anti-HB<sub>s</sub></u>	<u>anti-HAV, IgM</u>	<u>anti-HAV, IgG</u>
Patient	+	-	-	+
Nurse	-	+	-	-

The patient has Hepatitis B and has had Hepatitis A at some indeterminate time in the remote past. The presence of HB<sub>s</sub>Ag confirms that his blood is infective for Hepatitis B. The nurse, however, already has circulating anti-HB<sub>s</sub> (from a prior infection with HBV) and should be considered immune. If she did not have pre-existing anti-HB<sub>s</sub>, she would be a candidate for HBIG prophylaxis.

f. A full discussion of viral hepatitis and the use of immune globulins for protection against viral hepatitis may be found in Morbidity and Mortality Weekly Report, Vol 30, No 34, 4 September 1981, pages 423-428, 433-435. The same article may be found in the Annals of Internal Medicine, February 1982 issue (Vol 96, page 193-197). (LTC O'Donnell, HSC, AUTOVON 471-3167)

3. Morbidity and Mortality Weekly Report. Preventive Medicine Activities are strongly encouraged to subscribe to the Morbidity and Mortality Weekly Report (MMWR), published by the Centers for Disease Control, US Public Health Service. This report provides timely information about disease and injury incidence, preventive measures, and other matters relevant to the health of the public. It is usually the first to publish the formal recommendations of the Immunization Practices Advisory Committee (ACIP) of the Public Health Service. Because there is no subscription fee, personal subscriptions are also suggested, and hospital medical librarians are very receptive to the addition of the MMWR to the list of journals received. Requests for addition to the mailing list should be sent to: ATTN: Distribution Services, Management Analysis and Services Office, 1-SB-419, Centers for Disease Control, Atlanta, GA 30333. (LTC O'Donnell, HSC, AUTOVON 471-3167)

4. Update on Selected Communicable Diseases.

a. Coccidioidomycosis. Cases of this fungal disease may occur following training at the National Training Center at Ft Irwin, California. Instances of this infection warrant a Special Telegraphic Report (MED-16) IAW the format in AR 40-418. Skin testing of units training at Ft Irwin continues in order to assess any risk.

b. Gonorrhea. Of concern are cases of gonorrhea due to penicillinase-producing Neisseria gonorrhoeae (PPNG). Over 40% of gonococcal isolates from US military in Korea are PPNG. Spectinomycin therapy is required to cure such cases. Patients believed to have acquired gonorrhea in Korea should be suspected of having PPNG and should be managed accordingly, to include cultures with testing for beta-lactamase activity.

c. Leptospirosis. Cases of this spirochetal disease have occurred recently among personnel who underwent jungle training in Panama. The epidemiology of this waterborne disease among US military is still under study. Because the diagnosis is usually not self-evident from the clinical syndrome, the travel history is important in early recognition.

d. Measles, Rubella. Mandatory immunization of basic trainees has rendered these viral exanthems vanishingly rare among active duty personnel. Sporadic outbreaks still occur among civilian groups with low levels of protection. The American Hospital Association has placed emphasis on rubella control programs in hospitals and clinics in order to prevent transmission to pregnant women.

e. Meningococcal Disease. Groups A and C meningococcal vaccines have virtually eliminated A and C disease among basic trainees. Other serogroups

(B, Y, and W-135) still cause a handful of cases each year. Chemoprophylaxis (usually with rifampin) of close contacts of cases remains an important measure to prevent secondary cases.

f. Smallpox. The WHO has officially declared that naturally occurring smallpox has been eradicated. The US military continues to require that active duty personnel receive an initial vaccination and that booster inoculations occur every five years (formerly every three years).

g. Tuberculosis. One major issue is Mycobacterium tuberculosis resistant to the first-line drugs usually employed in therapy. Tuberculosis believed to have been acquired outside the US, especially in eastern Asia (i.e., Korea), should be highly suspected of being drug-resistant. Recent DA policy changes:

(1) Routine tuberculin skin tests of patients hospitalized 72 hours or more are not required.

(2) Routine annual chest x-rays are not required for follow-up of individuals positive to the tuberculin skin test, but should be performed if symptoms suggest the possibility of active disease. (LTC O'Donnell, HSC, AUTOVON 471-3167)

#### 5. Prevention of Heat and Solar Injuries.

##### a. Reference:

- (1) AR 40-5, 25 Sep 74.
- (2) TB MED 507, Jul 80.
- (3) FM 21-10, Jul 70.
- (4) DA Cir, 40-81-1, 1 Aug 81.

b. As summer approaches, it is necessary to re-emphasize the increased risk to military personnel of heat injury incurred while performing official duties as well as when engaged in non-military recreational activities. Although heat and solar injuries are preventable, over 250 personnel have been treated in HSC medical facilities during each of the last two summers. Additionally, there were three deaths.

c. The day-to-day prevention of heat illness is a command responsibility. However, medical personnel must provide necessary technical assistance, and should take the initiative to ensure that line commanders and installation cadre are fully aware of preventive measures. An effective program for the prevention of heat illness should include the following:

- (1) Training of cadre and command personnel in:
  - (a) Past experience with heat injury at the local installation.
  - (b) The causes of heat injury.

(c) The roles of acclimatization and of the scheduling of strenuous physical activity.

(d) The important role of water and salt consumption in prevention.

(e) The recognition of personnel who are at increased risk of heat injury (e.g., those with prior heat injury, current illness, recent immunizations, obesity, intake of alcohol or medication).

(f) The use of the WBGT index.

(g) The use of the buddy system during training.

(h) The early recognition of the signs and symptoms of heat injury.

(i) The principles of initial first aid treatment of heat injuries.

(j) Liberal policy of evacuation of the injured to the nearest medical treatment facility.

(2) Publicity about heat and solar injury prevention in daily bulletins, fliers, and installation newspapers.

(3) Frequent updates by Directors of Health Services to installation commanders during the warm season.

(4) Planning and training for medical personnel in anticipation of the need to treat heat casualties.

d. All heat injuries requiring hospital admission, or clusters of non-hospitalized heat casualties, should be reported by Special Telegraphic Report ((RCS MED-16 (R4)) as directed by Chapter 2, Section III, AR 40-418. (LTC O'Donnell, HSC, AUTOVON 471-3168)

## SECTION II - OCCUPATIONAL HEALTH

### 6. Respiratory Protection.

a. Users of the NIOSH/OSHA Occupational Health Guidelines for Chemical Hazards should take note of the following chemical substance respiratory protection entries for air-purifying devices:

(1) Nitric acid (Incl 1).

(2) Nitric oxide (Incl 2).

(3) Nitrogen dioxide (Incl 3).

All three substances call for a chemical cartridge, full-facepiece respirator with cartridges containing non-oxidizable sorbents and providing protection against the particular substance. Gas mask canister entries also contain the



previous proviso. Two important asterisk and double asterisk entries are included. First, all three substances are stated to be "oxidizers." As such, they should not come in contact with oxidizable materials such as activated charcoal. Secondly, "only NIOSH-approved or MSHA-approved equipment should be used."

b. Telephone inquiries to NIOSH in Morgantown, WV, identified that there are no NIOSH-approved chemical cartridge respirators approved for nitric acid, nitric oxide, or nitrogen dioxide. Only supplied-air or self-contained breathing apparatus are approved for worker protection against nitric acid, nitric oxide and nitrogen dioxide. (Mr. Graham, USAEHA, AUTOVON 584-2559)

7. Occupational Health Program Manual. A new USAEHA Technical Guide (TG 124) entitled Occupational Health Program Manual is being printed. The manual identifies the legal and regulatory basis and content of the Army Occupational Health Program. It also provides organizational and administrative guidance, identifies sources of assistance or support, and gives other information pertinent to implementation of the Army Occupational Health Program. Distribution will be made to occupational health personnel in May. Questions concerning the manual should be directed to Ms Ruff (AUTOVON 584-2578). Additional copies may be obtained from Commander, USAEHA, ATTN: HSE-AD, Aberdeen Proving Ground, MD 21010 (AUTOVON 584-2480). (Mrs. Donovan, USAEHA, AUTOVON 584-2559)

8. An Index of Occupational Health Education Materials. A new USAEHA Technical Guide (TG 125) entitled Index of Occupational Health Education Materials is being printed. Distribution will be made to occupational health/industrial hygiene personnel by late May or early June. Questions regarding the index should be directed to CPT Darnell, Health Educator, USAEHA, AUTOVON 584-2559. Additional copies may be obtained from Commander, USAEHA, ATTN: HSE-AD, Aberdeen Proving Ground, MD 21010 (AUTOVON 584-2480). (Mrs. Donovan, USAEHA, AUTOVON 584-2559/2439)

9. Occupational Health Nurses. The following corrections should be made to the listing of HSC Occupational Health Nurses provided in Information Letter Number 32. Request that this office be advised of all future changes.

<u>Installation</u>	<u>Delete</u>	<u>Add</u>
Army Matl & Mech Research Ctr	955-3476	955-5476
Ft Devens	Florence McElroy Eileen Burk 273-2020/2120	Francis McElroy 273-3148
DDEAMC	Julia Larry Ms Pullinger	Doris Pullins
Ft Jackson	734-5575 735-4412	734-6679/6418
Ft Ord	-	Helen Moore

<u>Installation</u>	<u>Delete</u>	<u>Add</u>
Sacramento AD	Zona Peterson	Jeanne Beretta Lily Takaji
Ft Sill	Billy Ross 639-2913	Margie Earnhart Kay Zotigh Jean Cullier 639-3443
Ft Riley	-	Judy Wells
Tobyhanna AD	R. Lutzkowski S. Shipman	Rose Lutzkyauski Suzanne Marcinko
West Point	Joyce Dash	Molly Edgette
Ft McPherson	Ovida Woods	Ouida A. Woods

(MAJ Huebner, HSC, AUTOVON 471-3167)

#### 10. Kevlar Handling.

a. Kevlar is a trade name for the compound p-phenylene terephthalamide, an aromatic polyamide plastic fiber produced by E. I. DuPont de Nemours and Co., Wilmington, Delaware. Results from two different skin patch tests using Kevlar fabric showed no sensitization nor reaction. Mild physical abrasion may occur when the rough edges of Kevlar rub against the skin. It should be noted that there is always a possibility that an occasional individual could develop sensitivity upon intimate exposure to this fiber and experience some degree of skin irritation.

b. Exposure to Kevlar may also occur by breathing particles generated during sanding, cutting, etc. The reaction of lung cells to Kevlar was similar to that seen with inert dusts (i.e., mildly irritating and nonspecific). The material is considered to be non-fibrogenic. While the respirable dust concentration in the total dust concentration was low, it should be noted that dust generated from operations such as milling and grinding of Kevlar tends to agglomerate into large, non-respirable particulates.

c. Kevlar may be coated with a resin or laminate by the supplier, depending on its final use. There have been no indications of problems relative to coatings on these fibers but coatings vary with specific end products, such as in the source of Kevlar used in Army helicopters. The supplier should be contacted for properties of the surface coatings.

d. Kevlar plastic is basically an inert material under normal handling conditions. No off-gassing of chemical products has been observed. However, heating of Kevlar at approximately 300°C and greater results in various gaseous products produced, depending on oxygen concentration and temperature. These gases may include oxides of nitrogen, CO, and aldehydes. Welding close to Kevlar may generate enough heat so that decomposition of Kevlar may occur.

e. The following industrial hygiene practices are recommended:

(1) Kevlar dust generated during industrial operations should be controlled in terms of nuisance dust exposure; 5 mg/m<sup>3</sup> respirable dust, 10 mg/m<sup>3</sup> total dust concentration for an 8-hr TLV<sup>R</sup>-TWA. If the dust concentration is exceeded, a NIOSH-approved, disposable dust mask respirator should be worn by workers until corrective measures are taken.

(2) Gloves and work coveralls should be worn by workers when handling Kevlar to avoid physical abrasion from rough cut edges of the plastic. Clean work clothes and washing facilities should be provided for the workers.

(3) Provide local exhaust ventilation with appropriate dust collector system for all operations involved with cutting, sanding, etc., of Kevlar to capture and collect particulates generated by these operations.

(4) In operations such as welding, where direct heat is applied near Kevlar and the potential for heating the plastic to 300°C and greater may exist, proper local exhaust must be used to insure that the worker is not exposed to gases liberated from heating the material. The local exhaust ventilation and respiratory equipment as required during a welding operation should respectively control and protect the worker against fumes and off-gases that may be produced during the operation. It is not anticipated that industrial operations such as band saw cutting and sanding will generate enough heat to produce significant off-gassing products.

(5) Whenever possible, use wetting operations to control dust generated during cutting, grinding, etc. Proper housekeeping procedures, such as vacuuming the work area should serve to keep dust levels to a minimum.

(Ms. T. Manoff, USAEHA, AUTOVON 584-3161)

#### 11. Medical Surveillance for Freon® Exposure.

a. Freon® is a registered trademark of E.I. DuPont de Nemours and Company which is applied to a group of at least 16 different fluorinated, chlorinated hydrocarbons. These compounds are used mainly as refrigerant gases and aerosol propellants. Contact with flames or hot surfaces may cause fluorocarbons to decompose to form highly irritant and toxic products such as chlorine, fluorine, hydrogen fluoride, hydrogen chloride, and phosgene. Information concerning health effects and the surveillance recommended below assumes that these toxic products are not generated in the routine occupational exposures to the refrigerant gases.

b. Freon gases, as a class, have low acute toxicity. Trichlorofluoromethane (Freon 11 or FC11) is considered the most toxic and therefore potentially the most hazardous halocarbon used in propellant gases. FC11 is reported to be the most cardiotoxic halocarbon and has served as the standard molecule of the Freon series in the study of health effects; however, Difluorodibromomethane (FC12B2) causes central nervous system (CNS) depression at lower concentrations than other fluorinated hydrocarbons. Cardiotoxic responses to halocarbon exposure include tachycardia or other arrhythmias, depression of myocardial contractility and hypotension. It has been concluded by the American Conference of Governmental Industrial Hygienists (ACGIH) that a ceiling level of 1000ppm provides a substantial margin of safety to prevent organic injury as well as cardiac sensitization.

c. In addition to cardiotoxicity and CNS depression at high levels, respiratory effects are seen in experimental animals. Other effects appear to be species specific and can vary to include changes in pulmonary resistance, bronchodilation, bronchoconstriction or decreased pulmonary compliance. Some authorities suggest increased mortality in asthmatics as a result of fluorocarbon-propelled medications.

d. As a result of structural similarity with carbon tetrachloride and widespread use, the National Cancer Institute performed carcinogenicity testing for FC11. A prior study reported in 1967 showed no indication of carcinogenicity. The NCI reported no evidence of carcinogenicity in mice; however; results were felt inconclusive for rats since too few animals survived until the study conclusion.

e. From the above information it appears that acute exposure to relatively high concentrations of the Freon refrigerants may result in adverse effects. Certain individuals may have increased susceptibility for these acute effects. Therefore, periodic job-related medical surveillance for workers potentially exposed to the Freon refrigerants should be aimed at detecting individuals at increased risk. A determination can then be made as to the advisability of beginning or continuing work posing potential exposure to these compounds and precautions to be taken in the event such work is undertaken. Preplacement and annual evaluations should consist of a history with emphasis on: cardiac arrhythmia, myocardial infarction, angina, or other indications of active conditions consistent with myocardial ischemia; asthma; chronic bronchitis; and emphysema. Consideration should be given to counseling individuals with a history of the above conditions and, if indicated on the basis of their health status and potential for exposure to relatively high levels of the Freon refrigerants, excluding them from exposure. In individuals with a history of the above conditions, tests of cardiovascular or respiratory status (e.g., EKG, pulmonary function testing) may be useful in evaluating their health status in this regard. (MAJ T. Weyandt, USAEHA, AUTOVON 584-2714)

12. Occupational Vision. TB MED 506, Occupational Vision, 15 December 1981, contains some significant changes in examination requirements. Employees working in eye-hazardous areas should receive routine vision screening exams on a biennial basis. (Note that some specific occupations, e.g., laser workers, may require more frequent exams). All other employees not routinely exposed to eye hazards should receive exams not more often than every three years, dependent on local resource availability. (MAJ Huebner, HSC, AUTOVON 471-3167).

### SECTION III - ENVIRONMENTAL HEALTH

13. TB MED 576, Sanitary Control and Surveillance of Water Supplies at Fixed Installations. TB MED 576, which supersedes TB MED 229, was published on 15 March 1982. Although it will be distributed, soon after that date, through normal distribution channels, USAEHA will send one copy, initially, to each MEDCEN/MEDDAC Preventive Medicine Activity. Others may obtain a copy by calling or writing CPT Kelly at USAEHA, ATTN: HSE-EW (AUTOVON 584-3816). (COL Grodt, HSC, AUTOVON 471-3168)

14. TB MED 575, Swimming Pools and Bathing Areas. TB MED 575, which supersedes TB MED 163, should be published this summer (1982). USAEHA will send a copy of the draft of TB MED 575 to each MEDCEN/MEDDAC. This draft can be used for guidance but cannot be quoted as official authority. Others can get a copy by calling or writing CPT Kelly. (COL Grodt, HSC, AUTOVON 471-3168)

15. Changes to Federal Drinking Water Regulations.

a. The National Interim Primary Drinking Water Regulations (NIPDWR) now require operators of community water supplies to analyze their water for sodium and corrosivity and to report the results to EPA, the state, or both. These requirements, originally published as amendments to the NIPDWR's in the Federal Register for 27 August 1980, went into effect on 27 February 1982. They are codified in 40 Code of Federal Regulations 141.41 and 141.42.

b. Sodium.

(1) The ingestion of sodium is of importance to patients with cardiovascular and kidney diseases and high blood pressure. Although the regulations set no maximum contaminant level (MCL); we recommend that physicians at MTF be notified when the sodium concentrations are greater than 100 mg/l; assuming a person ingests two liters a day, this concentration represents a dose of 200 mg of sodium a day.

(2) Water must be analyzed for sodium at the same frequency as other inorganic chemicals: once a year for surface waters and once every three years for ground water. If USAEHA analyses the water, the sodium will be routinely measured; if another laboratory analyses the water, they should be asked to measure the sodium.

(3) The appropriate state agency responsible for drinking water should be contacted to find reporting procedures and to determine if they have more stringent requirements. NPDWR's require results to be reported within the first 10 days of the month following the month the results are received.

(4) Ion exchange water softeners that exchange sodium for calcium and magnesium can cause a significant increase of sodium in drinking water. If these water softeners are being used at an installation or in the surrounding areas, MTF physicians should be alerted that drinking water can be a source of high amounts of sodium. The water would have to be analyzed to determine the actual levels.

c. Corrosivity.

(1) Corrosivity will be determined on a one time basis. Two samples must be taken and analyzed: one during the summer and one during the winter. The Langlier Index will probably be the index of choice, but states can require other tests or indexes.

(2) USAEHA will be issuing further guidance to installations on the sampling of water for corrosivity.

(3) Operators of community water supply systems are also required to identify certain construction materials used in the distribution systems and report the use to the state. (COL Grodt, HSC, AUTOVON 471-3168)

16. Inspection of Detention Cells and Confinement Facilities. There is apparently confusion over the interpretation and intent of the inspection requirements in AR 190-38 and AR 190-47.

a. AR 190-38.

(1) Change 1 (Dec 1978) states: "An officer, warrant officer or Environmental Health Technician . . . will participate in a weekly command inspection of all detention cells. Inspecting medical personnel will ensure that the operation and condition of the facility is consistent with accepted health standards, and that detainees are provided adequate health services."

(2) Normally, the detention cells are associated with short term detention of soldiers who have been apprehended by the military police for offenses such as public drunkenness or disorderly conduct. Detention will not exceed 24 hours except in unusual circumstances, and detention in excess of 72 hours is not authorized.

(3) The areas of preventive medicine concern include: general cleanliness, lighting, ventilation, food service, waste disposal, water supply and cleanliness of bedding material to include sheets, mattresses, pillows and pillow cases. It is obvious that some of these items are fixed and should not change; however, maintenance and repair of the utilities must be diligently performed to ensure proper working order.

(4) After the initial thorough evaluation, the weekly checks should require minimal effort and can be accomplished by preventive medicine technician personnel. At outlying locations where preventive medicine resources are not available full time, a suggested method includes performing an indepth annual evaluation in conjunction with training of local medical resources in the conduct of the weekly inspections.

(5) It is important to be aware of any proposed modifications or construction of new detention cells to ensure that medical design review is accomplished.

b. AR 190-47.

(1) This regulation states that a "Qualified AMEDD officer (preferably a preventive medicine officer, environmental science officer, sanitary engineer, or medical entomologist) will perform a weekly inspection . . . The purpose of this inspection is to ensure that the operation of the facility is consistent with accepted health and environment standards." This requirement applies to Confinement Facilities, US Army Retraining Brigade, and the US Disciplinary Barracks.

(2) This regulation also specifies the requirements for medical examinations of confined persons.

(3) It appears appropriate that the MEDCEN/MEDDAC agreement with local FORSCOM preventive medicine units address this weekly requirement and specific responsibilities be outlined.

(4) The areas of preventive medicine concern would be the same for these facilities as for the detention cells except the magnitude is significantly greater.

c. The above suggestions for meeting inspection requirements can be tailored to accommodate local resources, policies and priorities (LTC Bishop, HSC, AUTOVON 471-3167)

17. Cross-Connections. Cross-connections, which are connections that permit non-potable water to flow into a potable water system, are a serious and ever present danger to public health. Constant vigilance is needed to find and eliminate them. In hospitals, sewage treatment plants, and other areas where toxic and hazardous materials are present, cross-connections are particularly serious and pose a greater risk than normal. In the past several years, at least two hospital water supply systems have been contaminated because of cross-connections involving air conditioning or water cooling systems. Preventive medicine personnel must be able to recognize cross-connections and must always be looking for them. This can be done through special surveys or during routine inspections for other purposes. The American Water Works Association publishes a "Cross-connection and Backflow Prevention" manual, which can be purchased from AWWA, 6666 West Quincy Avenue, Denver, CO 80325 (\$3.50 to members; \$7.00 for non-members). You can also obtain information on cross-connections by writing or calling the Preventive Medicine Division, Academy of Health Sciences, US Army, Ft Sam Houston, TX 78234 (AUTOVON 471-6605). (COL Grodt, HSC, AUTOVON 471-3167)

#### SECTION IV - COMMUNITY HEALTH NURSING

##### 18. 1982 Community Health Nursing Workshop.

a. As programmed, the Community Health Nursing Workshop, sponsored by HSC, is scheduled for the period 20-24 June 1982. Sunday, 20 June, is a travel day. The workshop will convene at AHS, Ft Sam Houston, TX at 0730 on Monday, 21 June, and end at 12:00 noon on 24 June 1982. Community Health Nurses will be billeted in the BOQ at Ft Sam Houston.

b. All HSC facilities will be represented at the CHN workshop. Several CHN, who are non-funded, have also elected to attend. Fund cites, and additional workshop details to include your workshop group and pre-workshop assignment will be forwarded as it becomes available. If you have not received your letter and fund cite by 14 May 1982, please contact COL Frederico, Action Officer at this headquarters. (COL Frederico, HSC, AUTOVON 471-3167)

19. Tuberculosis Surveillance and Control Program Referrals. Referrals on individuals being assigned to Europe who require tuberculosis follow-up (reactors, converters, disease, etc.) should be forwarded to the following address: Commander, US Army 7th Medical Command, ATTN: AEMPM/CHN Consultant (COL Greene), APO New York 09102 (COL Frederico, HSC, AUTOVON 471-3168)

20. American Red Cross Instructor Candidate Course.

a. The Red Cross instructor candidate course has been incorporated into the curriculum of the past two 6AF5 courses for the Community Health Nursing TRAK. The course will continue to be a part of the 6AF5 curriculum.

b. The candidate instructor portion of 6AF5 is intended to certify Community Health Nurses to be instructors for four Red Cross courses, i.e. Health in the Home, Preparation for Parenthood, Parenting and the Babysitting Courses, using the teaching tools developed by the American Red Cross. During the Red Cross instructor candidate portion as well as the section on Health Education in 6AF5 Community Health Nurses will learn the methods and strategies of teaching and the use and development of pertinent audiovisual aids and materials.

c. The instructor certification is the entry level from which the Community Health Nurse can progress to where he/she can then utilize RN volunteers who have been certified to be Red Cross Nursing and Health instructors to augment his/her CHN staff as well as reach a larger audience. (LTC Zebbs, AHS, AUTOVON 471-2818)

21. Community Health Nursing References.

a. Stead, William W. and Dutt, Asim K., "What's New in Tuberculosis?", American Journal of Medicine, Vol 71, July 1981, pp 1-4.

b. Roberts, Florence, "A Model for Parent Education", Image, Vol XIII, October 1981. The proposition is made that the goal of parent educators is to assist parents to move upward on the continuum of parent education needs to where they are capable of providing well for these children without professional help. If copies of this publication are not available in your library, COL Frederico will provide xerox copies upon written request.

c. Mar, Dexter, "New Hepatitis B Vaccine: A Breakthrough in Hepatitis Prevention", AJN, Feb 1982, pp 306-307.

d. Control of Communicable Diseases in Man. 13th Edition (revised) 1981, edited by Abram S. Benenson. Available from the American Public Health Association, 1015 15th Street, NW, Washington, DC. Cost - \$17.50.

e. The Definition and Role of Public Health Nursing in the Delivery of Health Care. A statement of the Public Health Nursing Section of American Public Health Association, November 1980. The position paper has been published as a monograph by the American Public Health Association, 1015 15th Street, NW, Washington, DC, ATTN: Publications. Cost - \$12.00. (COL Frederico, HSC, AUTOVON 471-3167)



22. Community Health Nursing Information Exchange.

a. In the January 1982 PVNTMED Information Letter, CHN were encouraged to share ideas on program development with other CHN via the information letter. The response was good as you will note in this information letter. When preparing information articles for publication, please follow author's guidelines at Inclosure 5.

b. Inservice Topic for Child Care Center Personnel. CHN's may wish to contact their local chapter of the American Lung Association to schedule inservice on "Preventing Aspiration of Foreign Objects by Children" which includes life-saving procedures for dealing with choking children and adults. Although not all local chapters have slide/tape programs developed, several chapters do. The national association has descriptive literature available for use in conjunction with any inservice on the subject of choking. (COL Petrik, USA MEDDAC, Ft Eustis, AUTOVON 927-3602)

c. Alcohol and Pregnancy. A newspaper article on alcohol consumption during pregnancy based on The Surgeon General's report of July 1981 was developed and printed for public awareness in the military community. (CPT Petrik, USA MEDDAC, Ft Eustis, AUTOVON 927-3602)

d. CHN Pamphlet. CHN's at USA MEDDAC, Ft Sill have developed a six-page pamphlet describing CHN activities. (CPT Ellis, USA MEDDAC, Ft Sill, AUTOVON 639-5403)

e. Health Education Advertisement Samples. Handout materials to advertise CHN programs, specifically Expectant Parent Classes have been prepared by the MEDDAC, Ft Carson. (CPT(P) Carter, USA MEDDAC, Ft Carson, AUTOVON 691-2267)

f. Patient Discharge Plan. Dwight David Eisenhower Army Medical Center has developed a "Patient Discharge Plan" overprint on DA Form 4700. (COL Gorman, Dwight David Eisenhower Army Medical Center, AUTOVON 780-4278)

g. Car Seat Loaner Program. CHN's interested in starting a car seat loaner program at their installation should write the US Department of Transportation, National Highway Traffic Safety Administration, Washington, DC 20509, and ask for their Early Rider Packet #DOT HS 805 056 thru 060. (MAJ Harrison, USA MEDDAC, Ft Benning, AUTOVON 835-4041)

h. Ft Dix Wellness Workshop. On 29 January 1982, the CHN's conducted a "Wellness Workshop" for the Ft Dix community. The workshop was planned as an introduction to the concept of "Wellness" with the goals being to increase participants' awareness of their individual health maintenance levels, and to increase their awareness of community resources to assure wellness. Since the initial workshop, there have been requests from Ft Dix Civilian Personnel Office and the Ft Dix NCO Wives Club for community health education programs for their organizations. (MAJ Ray, USA MEDDAC, Ft Dix, AUTOVON 944-6876)

## SECTION V - SAFETY

23. Operating Room Fire. Subsequent to extinguishing a recent fire in an Army Hospital operating room, it was discovered by fire protection personnel (Fire Department) that electrical outlets in the vicinity of the operating room were not compatible with fire department equipment to evacuate smoke. Smoke continued to spread through other areas of the hospital while heavy electrical extension cords were located to reach a compatible outlet. Recommend safety managers/officers coordinate this potential problem with servicing installation fire departments to determine if a similar problem exists at your facility. A recommended solution is the local fabrication of an adapter by servicing electricians to be carried on fire trucks as an item of "on vehicle equipment." (Mr. Lucky, HSC, AUTOVON 471-5101)

24. Motor Vehicle Accidents. The prevention of motor vehicle accidents requires constant application of measures to create and maintain an appreciation for the need to apply safe practices in the operation of all wheeled vehicles. This responsibility must continue to be recognized at all levels of command in order for the total accident-prevention program to remain viable. The mission of HSC requires a high degree of safety awareness by personnel in the performance of all duties. This awareness must also extend to OFF-DUTY activities. (Mr. Lucky, HSC, AUTOVON 471-5101)

25. Water Safety. Now is the time to prepare for the upcoming swimming season to ensure that the water safety training programs contain accurate, factual and timely information. Suggest that the following training films be reviewed and then course outlines and lesson plans be updated appropriately.

a. Most recent issue: TF 20-6040, subject: The Cold Facts - Color - 13 minutes. This film warns against swimming in cold water, pointing out that most lakes are only 65 to 68 degrees or even less in the summertime. The following swimming facts are given:

(1) Jumping into water without checking its temperature first can kill you.

(2) Any amount of alcohol will hasten loss of your body heat.

(3) Move into cold water gradually and get out if it causes goose bumps or shivering.

b. Related audiovisual media:

(1) TF 20-4220, Prevention of Drowning - 26 minutes

(2) TF 20-6039, Thank You Safety Sue - 7 minutes

(3) MF 20-5256, Why Drown - 26 minutes

(4) MF 20-5817, Find a Float - 11 minutes

(5) MF 20-5897, Water, Friend or Foe - 23 minutes.

c. The above mentioned films are available from the installation audio-visual support center. (Mr. Nelson, HSC, AUTOVON 471-5101)

26. Home Safety.

a. "Do It Yourself" neighborhood franchise equipment rental outlets have sprung up throughout many home communities. Chain saw rentals are reasonable. Cost of firewood is escalating causing many home owners to cut and split their own. The need (firewood), inexpensive equipment rental (chain saw), and price of firewood provides the motivation for the home owner to cut and split his own. These three factors have compounded the probability of (at home) accidental injury. The basic equipment required for safe operation of chain saws are: heavy leather gloves, eye/face protection, hard hat, sturdy shoes. The final words of wisdom: USE BOTH HANDS.

b. An injury at home not only impacts on the individual but can either cause loss time at work or severely limit the job performance. It should be easily recognized that safety awareness not only applies to on the job situations but at home as well. (Mr. Nelson, HSC, AUTOVON 471-5101)

SECTION VI - ADMINISTRATION, TRAINING AND PERSONNEL

27. Herbicide Orange (Agent Orange Exposure). Medical personnel with questions concerning Herbicide Orange (Agent Orange) exposure may contact the Occupational and Environmental Medicine Division, US Army Environmental Hygiene Agency, Aberdeen Proving Ground, MD, AUTOVON 584-2714/2745/3030. (Mrs. Wickham, 221-3167)

28. American Academy of Sanitarians, Inc. There have been numerous requests concerning Certification by the American Academy of Sanitarians; therefore, the requirements are provided at Inclosure 4. Also, there is some apparent confusion on the difference between Registration and Certification. These terms are not synonymous, but represent separate and distinct activities. Registration is generally a legal process administered by a governmental licensing body created by legislative action. Certification, on the other hand, is the recognition by the profession itself of high achievement resulting from educational preparation and competent practice in the profession with marked distinction. Thus, certification cannot be earned at the beginning of a career, nor can it, in any sense, be authority granted to practice the profession. (LTC Bishop, HSC, AUTOVON 471-3167)

29. Board Certification in Preventive Medicine/Public Health.

a. The American Board of Preventive Medicine has announced that the certifying examinations for 1982 will be given on Tuesday, 30 November and Wednesday, 1 December 1982 in Dayton, Ohio.

b. The deadline for submission of applications to take the examinations is 1 June 1982. Requests for application forms and other information may be made telephonically to Linda Gum, commercial phone number (513) 278-6915 or by writing to: Stanley R. Mohler, M.D., Secretary-Treasurer, American Board of Preventive Medicine, Wright State University School of Medicine, Department of Community Medicine, P. O. Box 927, Dayton, Ohio 45401.

c. The Board has announced that the 1982 examinations will be the last opportunity for individuals eligible for Part I of the examinations only to take this examination (Part I) by itself and to take Part II at a later date upon achieving eligibility. After 1982, individuals will have to be eligible for both parts of the examination before taking them.

d. Effective with the October 1981 examination, the Part II examinations for General Preventive Medicine and Public Health were combined into one examination. All candidates for either specialty will take the same examination.

e. Detailed information about obtaining Army authorization for temporary duty and reimbursement for TDY and fees may be found in AR 40-67, Army Medical Department (AMEDD) Continuing Health Education (CHE) Program and Professional Specialty Recognition of AMEDD Personnel, dated 15 November 1980. (LTC O'Donnell, HSC, AUTOVON 471-3168)

30. National Training Center, Ft Irwin, CA The Preventive Medicine Activity at Ft Irwin has prepared an information package on preventive medicine concerns while training at Ft Irwin. Urge all preventive medicine personnel who are participating or are advisors to units who are participating in training at the National Training Center contact CPT Quinlin, Preventive Medicine Activity, USA MEDDAC, Ft Irwin (AUTOVON 470-3026/3234) and request this package prior to deployment. (LTC Bishop, HSC, AUTOVON 471-3167)

31. Enlisted MOBDES Positions.

a. In past information letters, the MOBDES (IMA - Individual Mobilization Augmentee) program has been discussed, but the primary emphasis was directed to officer personnel. It is obvious that the enlisted requirements will also increase during mobilization. Enlisted personnel are eligible to participate in the IMA program. The requirement to establish a position is similar to that for the officer - - need. Requests should be coordinated with your local manpower personnel and submitted to DCSOPS, ATTN: HSOP-F, this headquarters. All positions established must be E-6 or above. Enlisted IRR personnel in grade of E5 or above are eligible to apply for the IMA Program.

b. For additional information, contact SFC J. R. Battaglia, AUTOVON 471-6655/2630. ((LTC Bishop, HSC, AUTOVON 471-3167)

32. Information Dissemination. This office receives numerous calls and requests from preventive medicine and occupational health personnel at satellite installations for copies of command letters, messages, information letters, etc., that had been sent to the MEDCEN/MEDDAC. It is the responsibility of the supporting MEDCEN/MEDDAC to ensure that information from this headquarters gets distributed to the subordinate elements in their health service area. (MAJ Huebner, HSC, AUTOVON 471-3167)

33. Requests for Sample Analysis. Requests for environmental and industrial hygiene sample analysis by USAEHA must be routed as follows: for your installation, through command channels to the supporting MACOM Surgeon, to this headquarters (ATTN: HSPA-P). Samples should be sent directly to USAEHA, not this

headquarters, with a copy of the request letter. This routing of requests will not delay analysis, as USAEHA will begin processing the samples upon receipt. The purpose of this procedure is to maintain an approved audit trail, ensure that the MACOM is aware of the environmental and industrial problems at their installations, and allow this headquarters to monitor USAEHA workload. Prior to submitting samples, a phone call to USAEHA is encouraged to confirm that the analysis capability exists. (MAJ Huebner, HSC, AUTOVON 471-3167)

34. Current Concepts in Environmental "Climatic" Medicine.

a. The US Army Research Institute of Environmental Medicine is scheduled to present the course "Current Concepts in Environmental "Climatic" Medicine, during 1982 from 10 - 14 May. The course content deals with measurement of the thermal environment, the physical work requirements of various jobs, and the interaction between clothing and environment and the human tolerance limits to heat, cold and work. The human studies and information are supplemented with information on animal models and basic mechanisms are presented from animal studies when appropriate.

b. The instructors are drawn entirely from the Institute staff. Since the course deals with "current concepts" and topics, the specific emphasis of the material presented varies slightly from year to year although the overall information transfer and areas covered provides a fairly thorough grounding in the effects of climatic environment on man.

c. There is no charge for this course but the participants fund their own travel and per diem, or make their own arrangements for central funding which may be available. A copy of this year's agenda will be available upon request. The course begins at noon on Monday and ends by noon on Friday. The POC is: Commander, US Army Research Institute of Environmental Medicine, ATTN: SGRD-UE-ME, Natick, MA 01760. The commercial telephone number is (617) 633-4832. The AUTOVON number is 256-4832. (Dr. Goldman, USARIEM, AUTOVON 256-4832)

35. NIOSH Courses. DHHS (NIOSH) Publication No. 81-138, NIOSH Schedule of Courses (1981-82) lists all courses presented by NIOSH or in cooperation with professional organizations or other institutions and is available from NIOSH, Division of Training and Manpower Development, 4676 Columbia Parkway, Cincinnati, OH 45226 (513-684-8225). Many of these courses are valuable adjuncts to Army training and should be considered in lieu of, or in addition to, Army courses. (MAJ Huebner, HSC, AUTOVON 471-3167)

36. Military Hearing Conservation Workshop. The US Army Environmental Hygiene Agency will present the Fifteenth Annual "Military Hearing Conservation Workshop" for Department of the Army personnel, 17-21 May 1982. The overall objective of the course is to provide information to personnel responsible for the implementation and maintenance of hearing conservation programs. The course outline covers the following areas of instruction: physics of sound; anatomy and physiology of the hearing mechanism; physiological effects of noise; noise measurement and analysis; hearing protective devices, including practice in fitting earplugs; engineering control of noise, audiometric techniques, including practice in performing pure tone air conduction tests; recordkeeping; interpre-

tation of audiograms, and calibration and maintenance of audiometers; noise hazards in voice communication systems, aural rehabilitation; variables in noise-induced hearing loss; and procedures for establishing an effective health education program. Questions on registration/application should be referred to Ms Donley, AUTOVON 584-4158. (CPT Neilsen, USAEHA, AUTOVON 584-3797)

37. Occupational Health Workshop and Occupational Medicine Course.

a. The Occupational Health Workshop (16-20 Aug 82) defines the scope, priorities, and regulatory base of the Army Occupational Health Program. Content will include the functions and responsibilities of occupational health personnel in planning, implementing, and evaluating the program. The status of the development of the inventory of health hazards and its relationship to the job-related medical surveillance program will be reviewed. This course is open to military and civilian physicians, nurses and environmental science personnel who are engaged in the practice of, or with responsibility in, occupational health, or are anticipating such an assignment.

b. The Occupational Medicine Course (23-27 Aug 82) provides an up-to-date review of principles, practices, concepts, and trends in occupational medicine for physicians with full or part-time responsibilities in occupational health.

c. As enrollment is limited, all personnel desiring to attend must submit a letter to the Commander, USAEHA, requesting a space be reserved. In addition, arrangements must be made for funding. Centralized funding is available for a designated number of military personnel (ANC, MC, MSC, and VC). To apply for this funding, submit DA Form 3838 (Application for Professional Training) to Commander, USAMEDDPERSA, ATTN: SGPE-EDT, 1900 Half Street, SW, Washington, DC 20324, approximately 60 days prior to the starting date of the workshop. For all civilian personnel, and those military personnel who do not obtain centralized funding, it is the responsibility of each individual to obtain local funding. Additional information may be obtained from Commander, USAEHA, ATTN: HSE-AR-TR, Aberdeen Proving Ground, MD 21010 or call Mrs. Donley, Training Coordinator, AUTOVON 584-4158. (Ms Houston-Brickey/ MAJ Tezak, USAEHA, AUTOVON 584-2578/2714)

38. Industrial Hygiene Conference.

a. The American Industrial Hygiene Conference will meet in Cincinnati 6-11 June 1982. The conference is sponsored jointly by ACGIH and AIHA, and is an outstanding educational experience. Registration material can be obtained from the American Industrial Hygiene Association, 475 Wolf Ledges Parkway, Akron, OH 44311-1087, telephone (216) 767-7294.

b. On Monday, 7 June 1982, the Army Conference of Industrial Hygienists will meet at 0900 in Room 29 of the Convention Center. This unofficial organization of military and civilian industrial hygienists was formed several years ago to exchange ideas in both technical and administrative areas. Anyone attending the Cincinnati conference is welcome to the meeting. Information on joining the Army Conference can be obtained from Mr. James Kennedy, AUTOVON 584-2559. (MAJ Huebner, HSC, AUTOVON 584-3167)

39. Submission of PVNTMED Information Letter Articles.

a. The deadline for submitting articles for PVNTMED Information Letter Number 34 is 14 June 1982.

b. Attached at Inclosure 5 are guidelines to be followed when preparing information letter articles for publication. Authors are requested to adhere to these guidelines. (LTC Bishop, HSC, AUTOVON 471-3167)

## RESPIRATORY PROTECTION FOR NITRIC ACID

Condition	Minimum Respiratory Protection* Required Above 5 mg/m <sup>3</sup>
Particulate or Vapor Concentration	
250 mg/m <sup>3</sup> or less	<p>A chemical cartridge respirator with a full facepiece providing protection against nitric acid.**</p> <p>A gas mask with a chin-style or a front- or back-mounted organic vapor canister providing protection against nitric acid.</p> <p>Any supplied-air respirator with a full facepiece, helmet, or hood.</p> <p>Any self-contained breathing apparatus with a full facepiece.</p> <p>A Type C supplied-air respirator operated in pressure-demand or other positive pressure or continuous-flow mode.</p>
Greater than 250 mg/m <sup>3</sup> *** or entry and escape from unknown concentrations	<p>Self-contained breathing apparatus with a full facepiece operated in pressure-demand or other positive pressure mode.</p> <p>A combination respirator which includes a Type C supplied-air respirator with a full facepiece operated in pressure-demand or other positive pressure or continuous-flow mode and an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive pressure mode.</p>
Fire Fighting	Self-contained breathing apparatus with a full facepiece operated in pressure-demand or other positive pressure mode.
Escape	<p>Any gas mask containing non-oxidizable sorbents and providing protection against nitric acid.</p> <p>Any escape self-contained breathing apparatus.</p>

\*Only NIOSH-approved or MSHA-approved equipment should be used.

\*\*Nitric acid is an oxidizer and should not come in contact with oxidizable materials. Some cartridges and canisters may contain oxidizable materials, such as activated charcoal, and therefore should not be used to provide protection against nitric acid. Only non-oxidizable sorbents are allowed.

\*\*\*Use of supplied-air suits may be necessary to prevent skin contact while providing respiratory protection from airborne concentrations of nitric acid; however, this equipment should be selected, used, and maintained under the immediate supervision of trained personnel. Where supplied-air suits are used above a concentration of 250 mg/m<sup>3</sup>, an auxiliary self-contained breathing apparatus operated in positive pressure mode should also be worn.



## RESPIRATORY PROTECTION FOR NITRIC OXIDE

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### Condition:

### Minimum Respiratory Protection\* Required Above 25 ppm

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#### Gas Concentration

100 ppm or less

Any chemical cartridge respirator with a full facepiece and cartridge(s) containing non-oxidizable sorbents and providing protection against nitric oxide.\*\*

A gas mask with a chin-style or a front- or back-mounted canister containing non-oxidizable sorbents and providing protection against nitric oxide.

Any supplied-air respirator with a full facepiece, helmet, or hood.

Any self-contained breathing apparatus with a full facepiece.

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Greater than 100 ppm\*\*\* or  
entry and escape from  
unknown concentrations

Self-contained breathing apparatus with a full facepiece operated in pressure-demand or other positive pressure mode.

A combination respirator which includes a Type C supplied-air respirator with a full facepiece operated in pressure-demand or other positive pressure or continuous-flow mode and an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive pressure mode.

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Fire Fighting

Self-contained breathing apparatus with a full facepiece operated in pressure-demand or other positive pressure mode.

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Escape

Any gas mask containing non-oxidizable sorbents and providing protection against nitric oxide.

Any escape self-contained breathing apparatus.

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\*Only NIOSH-approved or MSHA-approved equipment should be used.

\*\*Nitric oxide is an oxidizer and should not come in contact with oxidizable materials. Some cartridges and canisters may contain oxidizable materials, such as activated charcoal, and therefore and should not be used to provide protection against nitric oxide. Only non-oxidizable sorbents are allowed.

\*\*\*Use of supplied-air suits may be necessary to prevent skin contact while providing respiratory protection from airborne concentrations of nitric oxide; however, this equipment should be selected, used, and maintained under the immediate supervision of trained personnel. Where supplied-air suits are used above a concentration of 100 ppm, an auxiliary self-contained breathing apparatus operated in positive pressure mode should also be worn.

## RESPIRATORY PROTECTION FOR NITROGEN DIOXIDE

### Condition

### Minimum Respiratory Protection\* Required Above 5 ppm

#### Gas Concentration

50 ppm or less

A chemical cartridge respirator with a full facepiece and cartridge(s) containing non-oxidizable sorbents and providing protection against nitrogen dioxide.\*\*

A gas mask with a chin-style or a front- or back-mounted canister containing non-oxidizable sorbents and providing protection against nitrogen dioxide.

Any supplied-air respirator with a full facepiece, helmet, or hood.

Any self-contained breathing apparatus with a full facepiece.

Greater than 50 ppm\*\*\* or  
entry and escape from  
unknown concentrations

Self-contained breathing apparatus with a full facepiece operated in pressure-demand or other positive pressure mode.

A combination respirator which includes a Type C supplied-air respirator with a full facepiece operated in pressure-demand or other positive pressure or continuous-flow mode and an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive pressure mode.

Fire Fighting

Self-contained breathing apparatus with a full facepiece operated in pressure-demand or other positive pressure mode.

Escape

Any gas mask containing non-oxidizable sorbents and providing protection against nitrogen dioxide.

Any escape self-contained breathing apparatus.

\*Only NIOSH-approved or MSHA-approved equipment should be used.

\*\*Nitrogen dioxide is an oxidizer and should not come in contact with oxidizable materials. Some cartridges and canisters may contain oxidizable materials, such as activated charcoal, and therefore should not be used to provide protection against nitrogen dioxide. Only non-oxidizable sorbents are allowed.

\*\*\*Use of supplied-air suits may be necessary to prevent skin contact while providing respiratory protection from airborne concentrations of nitrogen dioxide; however, this equipment should be selected, used, and maintained under the immediate supervision of trained personnel. Where supplied-air suits are used above a concentration of 50 ppm, an auxiliary self-contained breathing apparatus operated in positive pressure mode should also be worn.

## THE VALUE OF THE ACADEMY

The qualifications for Diplomate in the Academy have been carefully developed by the Board of Directors. Set forth in Article VI of the Bylaws, they are given herewith:

### REQUIREMENTS:

1. The applicant shall be of good moral character and of good and acceptable ethical and professional standing.
2. The applicant must be a graduate, with a baccalaureate degree, from an accredited college or university whose academic transcript indicates the successful completion of at least 30 semester credit hours in the physical and biological sciences. In addition, the applicant must possess a master's or higher degree in public health, the environmental health sciences, or in an area of scientific or administrative specialization bearing upon environmental management.
3. The applicant shall give evidence that he accepts the following concept of the Sanitarian Diplomate: He is a public health professional uniquely qualified through education and experience to manage environmental factors for the purpose of protecting and promoting the health and quality of life of man.
4. The applicant must be a legally registered sanitarian if employed in a state having a registration law for sanitarians. If registered in such a state but subsequently employed in another state, the Board shall consider the applicant to be legally registered as a sanitarian. If the applicant is not legally registered because there is no registration law in his state or employment, he must meet, to the satisfaction of the Board, the criteria specified in the Model Act for Registration of Sanitarians adopted by the Sanitarians Joint Council, June 19, 1960, which Act is herewith recognized by the Board.
5. The applicant must have had, at the time of application, at least seven (7) years of acceptable experience in one or more of the various fields of environmental health. Acceptable experience shall include at least five (5) years of full-time work in which the scope of duties was on a professional level with the additional two years, of the total of seven, in a capacity where he was in responsible charge of work above staff level in such capacity, as for example, supervisor, section chief, specialist or program administrator. Time spent in acquiring undergraduate and graduate degrees is not creditable as acceptable experience except that time spent in obtaining a doctoral degree will be creditable less course time.

### EXAMINATIONS:

The Board shall require an applicant to furnish further proof of his acceptability as a Diplomate, through one or more of the following procedures:

- (a) A written examination
- (b) Submission of an essay as specified by the Board
- (c) An oral interview as specified by the Board conducted by a Committee of Diplomates appointed by the Board

FEES:

1. Application Fees. Applicants for certification as Diplomates shall at the time of applying forward an application fee of \$15.00 made payable to the American Academy of Sanitarians, Inc. The application fee is not refundable.
2. Certification Fee. All successful candidates, upon payment of a \$25.00 certification fee, will be entered on the rolls and issued a diploma of the Academy.
3. Renewal Fee. All Diplomates of the Academy shall pay a \$5.00 biennial renewal fee.

All applications and fees should be sent to: American Academy of Sanitarians  
Office of Secretary-Treasurer  
Colorado State University  
Spruce Hall  
Fort Collins, Colorado 80523

### SUBMISSION OF PVNTMED INFORMATION LETTER ARTICLES

1. The following guidelines should be adhered to when preparing information letter articles for publication.

a. Authors are responsible for spelling, grammar and accuracy of the contents of the article.

b. Submit the article in a typewritten double spaced draft.

c. Underline the title of the article.

d. Letter paragraphs a, b, c, etc. Number sub-paragraphs (1), (2), (3), etc.

e. Indicate in parenthesis at the end of the article the rank, last name, unit abbreviation and AUTOVON telephone number of the author, e.g., (MAJ James, USAEHA, AUTOVON 584-XXXX).

f. The Chief, PVNTMED Division, HSC, has final approving authority for all articles submitted for publication in the information letter.

2. Address articles to: Commander, US Army Health Services Command, ATTN: HSPA-P, Ft Sam Houston, TX 78234.

### ADDENDUM TO PREVENTIVE MEDICINE INFORMATION LETTER #33

The following corrections should be made on page 14, paragraphs 21d and 21e.

1. Change 17.50 to 7.50

2. Change 12.00 to 2.00

